VOL. 6, No. 4 APRIL 1952

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

9-11 April	**Joint Committee on Health Policy, UNICEF/WHO, New York**
23-30 April	**Expert Committee on the International Pharmacopoeia, tenth session, Geneva**
	Preparation of monographs and appendices for volume II of the International Pharmacopoeia
1-2 May	**Expert Committee on the International Pharmacopoeia, Subcommittee on Non-Proprietary Names, fourth session, Geneva**
5-24 May	**Fifth World Health Assembly, Geneva**
29 May-7 June	**Executive Board, tenth session, Geneva**

EXECUTIVE BOARD

Ninth Session

The ninth session of the WHO Executive Board was held in Geneva from 21 January to 4 February 1952. The Board's meeting was preceded by that of its Standing Committee on Administration and Finance, which began its session on 7 January.

Among the decisions reached by the Board at this session were :

... Approval of the programme and budget proposed by the Director-General for 1953. If approved also by the Fifth Health Assembly, the budget will amount to $8,490,000, which represents an increase of $812,000 over that of the current year.

... Recommendation to the Fifth Health Assembly that a Committee on Programme and Budget be established, in the belief that the annual programme and budget are inseparable in the deliberations of the Assembly. This committee would (1) review the Annual Report of the Director-General, (2) study and make recommendations on the general programme of work for 1953-6, (3) recommend the budgetary ceiling for 1953, (4) review and recommend the programme and budget for 1953, including the amounts to be devoted to each section of the total budget, and (5) study such other items as are referred to it by the Health Assembly. The establishment of a Committee on Administration, Finance, and Legal Matters was also recommended, this committee to (1) review the financial position of the Organization, (2) determine the scale of assessments for 1953, (3) review that part of the budget for 1953 dealing with organizational meetings and administrative services and report thereon to the Committee on Programme and Budget, and (4) study such other items as are referred to it by the Health Assembly.

... Revision in the methods of work of the Executive Board whereby the Board in plenary session shall prepare an overall report for the Health Assembly both on technical questions connected with the programme of the Organization and on administrative and budgetary questions, setting up such subcommittees or working parties as it may find necessary for accomplishing this task.

... Establishment of international shigella centres. Two centres are to be provided for in the programme and budget estimates for 1954. One is to be located at Atlanta, Ga., USA, and the other at Oxford, England.

... Inclusion of the *Escherichia* group of micro-organisms in the studies made at the International Salmonella Centre at the Statens Serum-institut, Copenhagen, Denmark. This entails proposing to the Government of Denmark that the agreement between that Government and WHO concerning the International Salmonella Centre be amended to include the

Escherichia; no increase in facilities or in the Organization's grant to the present Centre will be required.

... Assistance to the Blood-Group Reference Laboratory of the Medical Research Council, London, when funds become available. Extension of the services of this laboratory will enable it to function as an international blood-grouping laboratory, collecting, checking, and distributing to national centres blood-grouping sera of a minimum standard, especially of the rarer blood-groups.

... Participation by WHO in the first world conference on medical education, to be held in 1953. The Board is recommending to the Fifth Health Assembly the use of $5,000 for participation by the Organization in this conference, which is proposed by the World Medical Association.

... A recommendation to the Fifth Health Assembly that it authorize the initiation of joint studies, to be undertaken with other international agencies, on the relationships between public health, medical care, and social security, and the appointment of an expert committee to consider the problems involved in the organization of medical care in nations of different social and economic backgrounds. This decision arose out of the Board's discussion on a report prepared by a WHO consultant group for consideration by the International Labour Organization in formulating its new Conventions on Social Security.

... Authorization of the publication of the reports of the following expert committees : Insecticides (third and fourth reports), Alcoholism Subcommittee of the Expert Committee on Mental Health (second report), Environmental Sanitation (second report), Nursing (second report), International Pharmacopoeia (ninth report) and its Subcommittee on Non-Proprietary Names (third report), Maternity Care (first report), Cholera (first report), Health Statistics (third report), Public Health Administration (first report), Biological Standardization (fifth report), and Drugs Liable to Produce Addiction (third report).

... Confirmation of the decision taken at its eighth session that the Fifth World Health Assembly shall be convened on 5 May 1952.

... Setting of 29 May 1952 as the date for the beginning of its tenth session, to be held in Geneva.

Special Studies

Two special subjects were studied by the Board : biennial health assemblies, and the WHO publications programme.

Biennial health assemblies

The study of biennial health assemblies arose as a result of a proposal, submitted to the Third World Health Assembly jointly by Denmark, Norway, and Sweden, and approved, in principle, by the Assembly, that health assemblies be held only every two years instead of annually. The

Board, after thoroughly examining the legal, financial, and administrative aspects of a change from annual to biennial assemblies, expressed no opinion as to the desirability of making such a change but confined its recommendations to (1) the amendments to the Constitution which would be required if the Fifth World Health Assembly should decide to have biennial assemblies, and (2) the administrative arrangements which this change would entail.

Publications programme

With regard to the WHO publications programme, the Board noted the " considerable progress made by the Director-General in implementing the publishing policies laid down by the Third World Health Assembly " and expressed its " satisfaction with the general programme of WHO publications ".

Certain recommendations were made concerning specific publications :

1. Articles in Spanish, accompanied by summaries in English and in French, will, in the future, be accepted for publication in the *Bulletin of the World Health Organization.*

2. The Director-General is requested to issue periodic statements giving (*a*) lists of short descriptive titles for all projects in operation, classified by region, country, and major type of activity, and (*b*) summaries of any projects started or completed during the period covered, as well as of achievements in selected projects and in other work of the Organization. These statements are to appear in the *Chronicle of the World Health Organization* or are to be issued as a supplement to it, the manner and frequency of publication being left to the discretion of the Director-General.

3. Member States are reminded of their obligations, under Article 63 of the Constitution, to communicate promptly to the Organization important laws and regulations pertaining to health which have been published, so that these may be included in the *International Digest of Health Legislation.*

The Board recognized the need for better publicity for WHO publications and recommended to the Fifth Health Assembly the use of certain sums from the Publications Revolving Fund to finance publicity and to improve sales of WHO publications.

* * *

A full account of the ninth session of the Executive Board has been published in No. 40 of the *Official Records of the World Health Organization.*

VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA

WHO Team Completes Assignment

In December 1951 the last members of WHO's first venereal-disease-control team left Simla, Himachal Pradesh, India, where the team had been conducting a demonstration since April 1949.[1] Although the international personnel withdrew, the work which they had begun continued without pause, carried on by Indian physicians, nurses, and serologists, many of whom had been trained by the WHO team.

Background and Objectives

This WHO project was undertaken at the request of the Government of India and upon the recommendation of the Expert Committee on Venereal Diseases.[2] The Indian health administration, in accepting the project, made certain commitments, both on the part of its central government and on the part of the local government of the area in which the demonstration was to be undertaken. It agreed to supply matching personnel and understudies; auxiliary personnel, including technical assistants, laboratory hands, sweepers, drivers, etc.; laboratory and clinic facilities; and living quarters for the international staff.

Himachal Pradesh, a province recently formed by the consolidation of 28 former " hill stations ", was chosen by the Indian Government as the site of team operations. This area, which is extremely mountainous and inaccessible, has a population of approximately 900,000. Prevalence of venereal disease, particularly syphilis, was believed to be high, though no adequate epidemiological studies had ever been made. As a young province, and one in which the health services were in the process of formation, Himachal Pradesh provided a good milieu for what was essentially a pioneer health project.

The general objectives of the demonstration were :

(1) to develop venereal-disease control along modern, scientific lines and to demonstrate current methods of control at reasonable cost and with limited equipment;

(2) to give training in the diagnosis, treatment, and control of venereal diseases to local physicians, serologists, nurses, and auxiliary personnel;

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[1] *Chron. World Hlth Org.* 1949, **3**, 134, 294; 1950, **4**, 61; 1951, **5**, 171

[2] *Off. Rec. World Hlth Org.* **15**, 22

(3) to plan the establishment of laboratory activities and to work towards the standardization of serodiagnostic techniques;

(4) to recommend therapy schedules convenient for the different venereal diseases under local circumstances in each particular area;

(5) to stress the importance of the control of the early, infectious stages of venereal disease and the prevention of congenital syphilis;

(6) to recommend and initiate research activities compatible with the facilities and conditions of the area;

(7) to stimulate the collection of statistical data on the incidence of venereal diseases;

(8) to encourage and initiate epidemiological investigations of venereal diseases, particularly of early infectious cases, and to adapt case-finding methods employed in other countries to the conditions of the area and to the psychology of the people;

(9) to give advice on legislation concerning venereal diseases should such advice be requested by national health departments.

Specifically, a venereal-disease-control programme was to be developed in an urban area (Simla); mass treatment was to be demonstrated in a rural area; and personnel from India and other countries of South-East Asia were to be trained in venereal-disease control. This was to be accomplished with the aid of the WHO team, composed of a venereologist (team leader), a serologist, a public-health nurse, and a health programme specialist. The international staff was supplemented by a national team, headed by Dr. R. B. Tampi, to whose direction the work was gradually transferred and under whom it is now being continued, budgetary commitments for this project being included in the health programme of the area for the next few years.

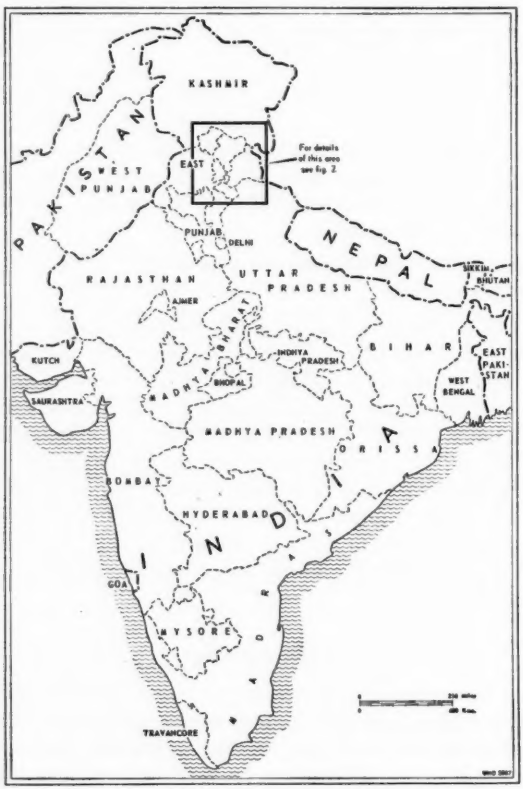
Team Activities

The team was able to begin operations very rapidly : within one week after the arrival of the serologist, three weeks after the first WHO team member had come, all plans were completed and the group was actually prepared to begin clinical activities in the treatment of early syphilis. This was due partly to the fact that the WHO team leader was able to take with him, by air, certain equipment including a microscope, penicillin, and small quantities of clinical materials.

Before the programme could develop, it was necessary to establish and staff a laboratory, to survey the nature and extent of the problem, and to select a site for field activities. While all this was in progress, clinical work was begun in Simla and the surrounding area : venereal-disease services were improved and expanded in the hospitals of Simla, and treatment and diagnostic facilities were introduced into four district hospitals

of Himachal Pradesh. Within the first year, a functioning venereal-disease-control programme, consisting of diagnostic and treatment facilities in the largest town in each district, had been established in the province.

FIG. 1. VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA—I

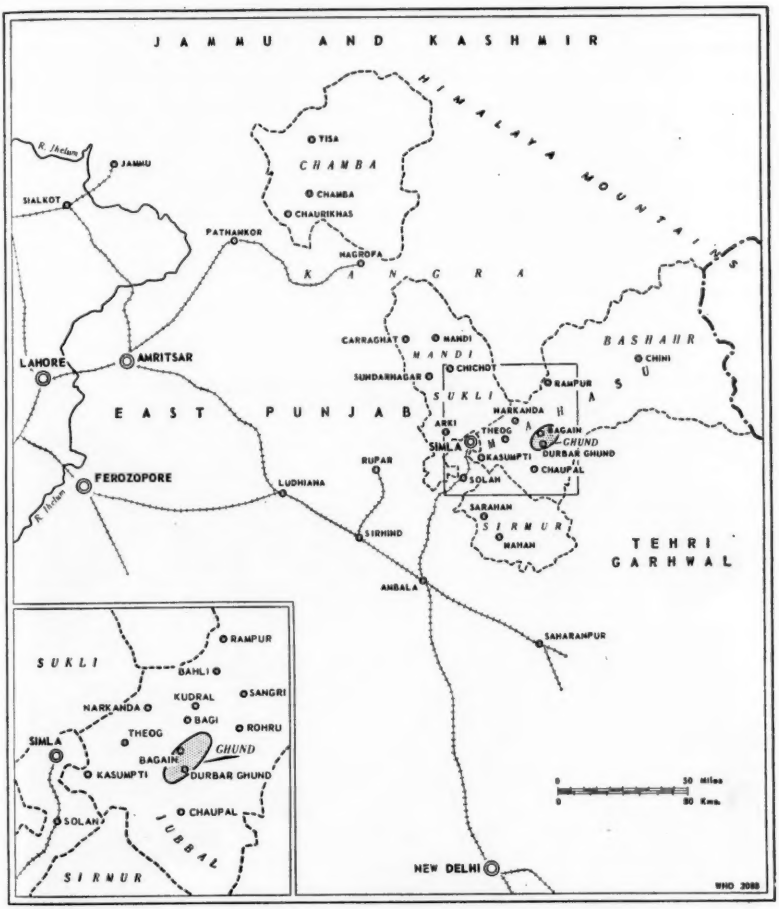


Map of India showing Himachal Pradesh

Serodiagnosis

The laboratory began its operations within four months of the team's arrival. One of its first tasks was to determine whether various serodiagnostic procedures were applicable under local conditions. It was found that the VDRL (Venereal Disease Research Laboratory, Chamblee, Ga., USA) slide-test, with cardiolipin antigen, and the Meinicke slide-

FIG. 2. VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA—II



Detailed map of demonstration area

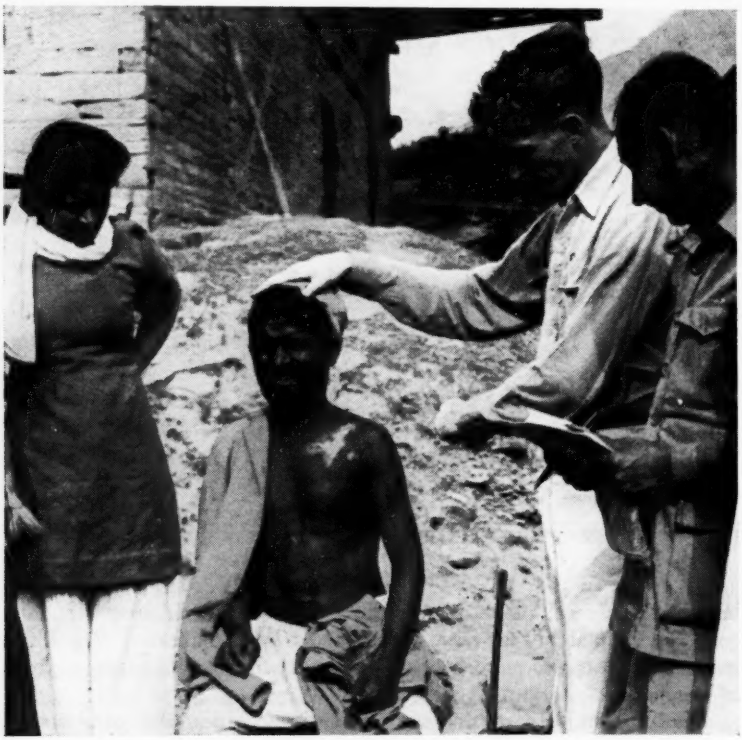
test were the most practical procedures, owing to their simplicity, low cost, and adaptability for rapid testing under field conditions. The Kahn reaction test was also performed on numerous samples, chiefly for purposes of comparison.

Concomitant with routine serodiagnostic activities, the team carried on a number of special projects, particularly studies comparing the various serological procedures and the antigens used in them.

Treatment

Penicillin therapy, utilizing PAM (procaine penicillin G in oil with 2% aluminium monostearate), was the method of treatment upon which the team based its clinical activities. Various therapy schedules were employed, depending upon the stage of the disease and the conditions under which treatment was administered. It was found expedient to give patients with early infectious syphilis a " one-shot " treatment consisting of 1,200,000 units of PAM; in special cases, and wherever possible, follow-up treatment was administered on the fourth and seventh days. The epidemiological effect of 300,000 units of PAM was also studied in one area. Penicillin treatment was readily accepted by local medical personnel, who welcomed it as a simple and most effective aid to venereal-disease control.

FIG. 3. VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA—III



The team leader explains how penicillin treatment, given three months previously, has almsot completely healed the syphilitic lesion on this farmer's shoulder.

FIG. 4. VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA—IV

Child suffering from congenital syphilis, the treatment of which was especially emphasized in the team's activities. The sign of the disease in this particular case is the frontal bosses, i.e., protuberance of forehead.

Cases of granuloma inguinale were treated with streptomycin, the average dose being 20 g in five days, though in special cases 30 or 40 g were prescribed. This therapy was reported to be highly satisfactory.

Nursing

WHO public-health nurses and matching personnel provided by the Indian Government played an important role in the demonstration team's work. Activities of the nurses included :

(1) maintenance of clinic quarters, supplies, and equipment;

(2) assistance to patients and to doctors in examinations and treatments and in the collection and preparation of samples for laboratory tests;

(3) epidemiological activities, such as case-finding (including routine collection of blood-samples from patients newly admitted to local hospitals, interviewing patients to trace contacts, and assisting during field surveys) and case-holding (sending letters to patients urging clinical attendance and to medical officers for following up delinquent patients living outside the Simla area, home visits, interviews, etc.);

(4) health education, through interviews with patients, discussions with nurses at local hospitals, and other means;

(5) maintenance of records, clinical and statistical, and of supply inventories;

(6) training of other nurses through supervision of nursing practice and seminars;

(7) general co-operation with community agencies and local medical personnel in order to promote goodwill towards the team and its work and understanding of venereal-disease-control activities.

Health education

An active programme of health education was undertaken as part of the project. With the aid of modern propaganda techniques, including the use of audiovisual equipment, an attempt was made to reduce the incidence of venereal disease and to encourage those who were infected to be treated. Speeches, music, films, and slides were utilized in trying to reach groups at schools, hospitals, on field trips, and in places where people might be assembled. Pamphlets were prepared and distributed, and lectures and seminars were given to trainees by the health educator.

Training programme

From December 1949 to August 1951 a training programme was carried on by all the team members. Practical and theoretical courses were given to medical officers, laboratory technicians, nurses, and auxiliary workers. A total of 27 seminars was held. During the period from June 1950 to May 1951, 39 trainees received instruction : 25 physicians (16 clinicians, 9 serologists), 8 technicians, 5 nurses, and 1 social worker. Of this number, 3 of the physicians were from outside India, i.e., from Burma and Indonesia.

Field trips

Among the more arduous of the team's activities were the field visits made to outlying areas. The terrain was often mountainous and difficult, and climatic conditions sometimes varied from extreme heat to extreme cold during the same trip. Transportation was by means of jeeps, mule,

horse, bus, or truck, or on foot, depending on the terrain and the accessibility of the location.

On field surveys the team attempted to test and examine as many persons as possible, to treat those found infected, and, where possible, to institute case-finding and follow-up measures. Blood-samples collected in such surveys were retested in the main laboratory, for confirmation and comparison purposes.

Health education was particularly important on field trips. Sometimes the way was paved for the team's arrival by the distribution beforehand of specially prepared leaflets. Once the team had arrived, headquarters were set up in a school, a temple enclosure, or other suitable centre. Often advantage was taken of religious festivals or of fairs, which would bring large groups of people together and facilitate operations. Music, recorded speeches, posters, and other propaganda devices were utilized to attract attention and to persuade the people to come for examination and treatment.

FIG. 5. VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA—V

Another victim of congenital syphilis, as evidenced by his saddle nose.

Some resistance to drawing of blood-samples was not uncommon. On one occasion, the serologist, in an effort to counteract this attitude, set up a field laboratory unit and performed the tests before the eyes of large crowds of " sceptics ", after which he discarded the samples to convince the onlookers that their blood was not used for purposes other than laboratory testing. This demonstration proved to be fairly effective.

Research

Research activities of the team were largely of a practical type : studies on the performance and reliability of serological procedures, particularly

the VDRL and Meinicke reactions; clinical evaluations of the effectiveness of penicillin therapy; and epidemiological surveys to determine the prevalence of venereal diseases in the Simla area and in other parts of India. Of special interest were discoveries made concerning false-positive serological reactions in cases of leprosy, and comparisons made between the different antigens used in the various serodiagnostic procedures. Articles on these subjects will be published in a forthcoming number of the *Bulletin of the World Health Organization*, in which will also appear an illustrated account of a study of syphilis in the population of a closed valley—the Ghund area—where a " mass treatment " project was undertaken.

Personnel

The international team included the following : Dr. J. C. Cutler (USA), team leader, March 1949 to June 1950; Dr. J. Amador Guevara (Costa Rica), senior adviser, December 1950 to September 1951; Dr. J. Kvittingen (Norway), serologist, April 1949 to November 1951; Miss E. Rose (USA), public-health nurse, October 1949 to August 1950; Miss V. Ford (USA), public-health nurse, November 1950 to December 1951; and Mr. J. C. McCullough (USA), health programme specialist, March 1950 to December 1951.

Reports of Expert Groups

HEALTH NEEDS AND NURSING PERSONNEL

The second session of the Expert Committee on Nursing was held in Geneva from 15 to 20 October 1951. The report of the committee will appear on 25 June 1952 as No. 49 in the *Technical Report Series*.[1]

Recognizing that the role of nursing personnel in any community depends on the health needs of the people in that community and on the services available from other members of the health team, the committee tries to answer four questions :

(1) What are the health needs of people and the methods of meeting them ?

(2) How can nursing help to meet these needs ?

(3) What principles are involved in planning a programme designed to prepare nursing personnel ?

(4) How can nursing make its maximum contribution ?

[1] *World Hlth Org. techn. Rep. Ser.* 1952, **49**, (in press)

Health Needs and Ways of Meeting Them

Food, shelter, clothing, a healthy environment, ability to use available resources, and provision of care for the sick are recognized as universal prerequisites for healthy living. The minimum level of social and economic security which is essential for their attainment has not yet been reached in many parts of the world. Demonstration programmes are at present being carried out, however, which show how educational, agricultural, and health activities may be combined to meet the people's needs. The committee recommends that WHO, when taking part in such experiments, should stress the importance of the education of women, particularly in child health and family hygiene, and should co-operate with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and other specialized agencies in preparing reports on these demonstrations as a guide to other administrators of health programmes.

Functions of Nursing Personnel

The life of a nurse, whose share in the work of the health service varies from district to district, may include such differing activities as teaching women in a rural community in Eastern Canada to improve the nutritional status of their families by the home-canning of suitable foods, or persuading village leaders in a rural district of India to receive and co-operate with a malaria-control team. However, her role in the health team remains fundamentally the same and assumes the following four main aspects :

(1) Psychological and sociological : satisfaction of the emotional needs of patients and stimulation of community movements for the social, economic, or educational betterment of the people.

(2) Operative : physical care of the sick, and initiation of measures to help to prevent the development and spread of illness in the community.

(3) Educational : not merely instruction of voluntary workers, auxiliary personnel, and nursing students, but, even more important, especially in the less-developed countries, health education of all with whom the nurse comes in contact.

(4) Administrative and advisory : development of teaching programmes and planning and organization of health services, as circumstances require.

Preparation of Nursing Personnel

The problem of provision of nursing personnel capable of fulfilling all these functions is an urgent one, especially in the less-developed areas of the world. The following suggestions for meeting the problem are advanced by the committee :

In planning nursing services for a community, both short- and long-term needs must be considered. It is essential first to assess what kinds of nursing

services are needed the most, what types of personnel are already trained, and what resources are available to meet future expenses. The committee recommends that governments should grant funds from educational sources to schools of nursing instead of financing them from the general health services' budget.

In selecting students and planning training programmes, consideration of the educational level of the people from whom the nursing personnel is to be drawn is of paramount importance. While schools of nursing should provide a training sufficiently comprehensive to fit the qualified student to fulfil all aspects of the nurse's role—not merely training in how to care for the sick, but also in how to educate others in health work—curricula must be adjusted to the general stage of development of the people among whom the student lives.

As regards methods of teaching, the committee urges that the education of nursing personnel should no longer be treated as a by-product of employment in hospitals or other institutions, as this leads to waste and frustration. The small number of textbooks available could be increased if WHO were to provide grants to nurses for the translation of existing textbooks or the writing of new ones. Much greater use should be made of visual and tactile teaching material than hitherto. The committee recommends that Member Governments be asked by WHO to send selected teachers from schools of nursing to train at the Visual Aid Production and Training Centres now being established by UNESCO. It also recommends that WHO should help countries possessing the necessary educational institutions to provide advanced study for nursing personnel from countries having no such institutions. When personnel are being prepared for work in countries other than their own, every care should be taken to create an awareness of the cultural background and sociological pattern of the countries in question.

If nursing personnel are to play their role effectively, the professional status of nurses must be legally recognized. The committee recommends that WHO study laws relative to nursing and publish examples of those which have proved successful in operation.

Maximum Contribution of Nursing

The aim of nursing personnel, as members of the health team, should be to establish a high level of health and well-being among all peoples. Their contribution to this end will be most effective if they are trained in relation to the functions they are to perform, are placed strategically at all levels in the health services, are incorporated in the health team with the full understanding of their potential contribution, are fully aware of the goals and objectives of the team and of their own part in achieving them, and, above all, if they bring to their task the human understanding which is the essence of their contribution.

ENVIRONMENTAL-SANITATION SERVICES AND PERSONNEL

Only during the last hundred years has the paramount influence of sanitation upon the general health of a nation become recognized, and in many parts of the world even such elementary measures as the provision of clean water and the sanitary disposal of wastes have not yet been introduced. The Expert Committee on Environmental Sanitation was set up to advise WHO on ways and means of improving sanitary conditions and on the kinds of specialized personnel required. At the first session of the committee, in September 1949,[1] the part which environmental sanitation should play in the general health programme was considered. The committee met for the second time from 15 to 20 October 1951 and, after discussing the varied organizational patterns of environmental-sanitation services to be found in different countries, devoted the major part of its session to a detailed study of sanitation personnel requirements. The committee's report is to be published on 1 June 1952 as No. 47 in the *Technical Report Series*.[2]

Organization of Environmental-Sanitation Services

Health organizations, which have developed largely in response to particular health problems as they have presented themselves, vary greatly in structure. Some are organized "vertically"—in separate specialized organs—as in the Netherlands, others "horizontally"—in more generalized larger departments—as in the USA. In some countries, such as France, control is exercised through the central government, while in others—for example, the United Kingdom—the health services are largely decentralized, responsibility for action resting with the local authorities.

As part of the health organization, environmental-sanitation services show characteristic differences in pattern. While any attempt to produce greater uniformity would be ill-advised, sanitary measures may be introduced more easily in underdeveloped countries if responsibility for action lies with a central authority.

Sanitation Personnel

Activities

Not only the organization of environmental-sanitation services but also the type of personnel available and the functions they are expected to

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[1] *World Hlth Org. techn. Rep. Ser.* 1950, **10**; see also *Chron. World Hlth Org.* 1950, **4**, 12.

[2] *World Hlth Org. techn. Rep. Ser.* 1952, **47**, 21 pages, price : 1/3, $0.15, Fr. fr. 50.—, or Sw. fr. 0.60.

perform vary greatly from country to country. The activities of such personnel may, however, be divided into three main groups :

(1) the design, construction, operation, and maintenance of major works intended to improve the environment in the interests of health, e.g., supply of water, disposal of wastes, town planning, and housing ;

(2) the inspection of, and preparation of reports on, existing environmental conditions, and the taking of measures to prevent or adjust faults which are revealed and to ensure compliance with legal provisions, e.g., inspection of food establishments, investigation of nuisances;

(3) the stimulation of self-help and local interest in favour of improvements in environmental conditions.

Categories

While recognizing that the terminology used to describe the various types of sanitation personnel may be variously interpreted in different countries, the committee does not consider it practicable to try to suggest internationally acceptable titles. It does, however, attempt to describe the various categories of personnel which contribute, either directly as sanitation specialists, or less directly as members of the health team or as voluntary workers, to the improvement of sanitary conditions. The following categories are discussed :

(1) sanitary (public-health) engineers : specialists with full knowledge of all aspects of environmental sanitation, qualified to design and supervise the construction and operation of major sanitary works and to assume administrative duties as required ;

(2) plant operators : workers skilled in the operation of specific sanitary works;

(3) sanitarians : divided into health inspectors—" the backbone of the sanitation service "—who are responsible for inspections and the settling of complaints, and for the promotion of programmes of sanitary importance; health assistants, who work under the supervision of the health inspector; and health aids, who perform general sanitary duties in rural areas;

(4) medical officers of health : responsible by statute in most countries for the direction of health programmes, including sanitation;

(5) other specialists : scientists, such as chemists, entomologists, and veterinarians, whose skills contribute to sanitation works;

(6) industrial hygiene personnel : factory welfare-officers, inspectors, etc., responsible either directly or indirectly for the day-to-day maintenance of adequate environmental conditions;

(7) personnel engaged in personal health services: general practitioners, nurses, and midwives who, by their personal contacts, may stimulate popular interest in sanitary improvements;

(8) public-health nurses and health visitors, whose contacts provide unique opportunities for encouraging sound sanitary practice in the home;

(9) voluntary leaders, e.g., village schoolmasters, whose help is invaluable, particularly in underdeveloped areas, in encouraging the people to make the best use of available sanitation services and in stimulating self-help.

Education and training

The education and training required by the various categories of sanitation personnel are also considered. For the sanitary engineer, the committee emphasizes the importance of experience in the field, organized, perhaps, on a regional basis, to complement the normal undergraduate engineering course followed by one year's postgraduate training recommended by the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel.[3] The training of plant operators may take only a few months, depending on the type of plant; the establishment of training courses should be encouraged, especially in the underdeveloped areas where such personnel are scarce. The health inspector's training, consisting largely of practical demonstrations, should enable him to become the "general practitioner" of environmental sanitation. The health assistant should receive similar instruction, but at a less specialized level, and the health aid, elementary instruction in sanitary work as applied to rural areas. The medical officer of health must be taught a greater realization of the importance of environmental sanitation to general health. In training industrial hygiene personnel, increasing attention should be given to the control of the environment of workers in small workshops, or in agriculture, and to the effects of industry on the environment outside the factory as well as inside. The award of fellowships to senior personnel should be encouraged, and in-service training should be provided to keep workers up to date with recent advances. In teaching voluntary workers, the importance of personal hygiene and of maternal and child care should be emphasized, and information on elementary sanitary works, such as rural latrines, provided.

Training centres

The committee suggests the development of three types of training centres : (1) postgraduate training institutions for sanitary engineers and medical officers of health : a small number of well-equipped regional centres offering field training facilities would be preferable to a large number of poorly-equipped local centres; (2) training centres for inspection duties : urban centres for the training of factory inspectors, industrial hygiene personnel, etc.; and (3) training centres for voluntary workers : rural demonstration centres.

[3] *World Hlth Org. techn. Rep. Ser.* 1950, **22**, 11; see also *Chron. World Hlth Org.* 1950, **4**, 119.

Utilization of personnel

It is essential that sanitation personnel should make the greatest possible contribution to the promotion of health. This aim will be realized only if planning and direction are the responsibility of highly skilled specialists, particularly in underdeveloped regions; if individuals are used to the fullest extent of their abilities and training and are provided with opportunities for advancement; if they are free to devote themselves full time to their work; and if they receive complete co-operation from their colleagues, whatever their branch of activity.

Review of WHO Publications

EXPERIMENTS IN BCG STANDARDIZATION

The preparation, tests of virulence, and tuberculogenic potency of 144 consecutive weekly lots of BCG vaccine are the subject of an article in the *Bulletin of the World Health Organization* by Dr. K. Birkhaug, Principal Medical Bacteriologist of the Division of Laboratories and Research, New York State Department of Health, Albany, N.Y.[1]

BCG Cultures

By weighing BCG cultures grown on Sauton's medium, it was estimated that each weekly lot of 20 mg/ml vaccine (semidry weight) for transcutaneous vaccination contains about 5 mg of dry BCG organisms per ml ; each lot of 1 mg/ml vaccine (semidry weight) for intracutaneous vaccination was estimated to contain about 0.25 mg of dry BCG organisms per ml.

Efforts to improve methods of processing BCG vaccine included the replacement of Calmette's diluent by a solution composed of one part Sauton's medium without glycerol and three parts phosphate buffer solution pH 7.2. It was found that this diluent exerted little or no vitiating action on BCG during the prescribed ten-day period of the vaccine's usefulness—provided the vaccine was kept at 2°-4°C—and was, moreover, better tolerated during the intracutaneous inoculation in man than the hypotonic diluent recommended by Calmette. Another innovation was the addition of 20 units of sodium penicillin per ml of vaccine to control contaminations with Gram-positive and certain Gram-negative micro-organisms during repeated aspirations of vaccine from the same vial.

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[1] *Bull. World Hlth Org.* 1952, 5, 227 (Article in English with summary in English and French)

Determination of the survival-rate showed that approximately 90% of the BCG bacillary aggregates remained viable in three-day-old vaccine, 30% in six-week-old vaccine, and 2% after one year.

Tuberculogenic Potency and Virulence Tests in Animals

Tests in guinea-pigs to determine the tuberculogenic potency and virulence of the vaccine revealed the following :

1. BCG tuberculogenic potency and virulence, as determined by skin lesions in guinea-pigs inoculated intracutaneously and transcutaneously with graded doses of vaccine, were relatively stable.

2. The average weight of guinea-pigs killed three and six months after inoculation showed that the infection induced in normal animals with 10 mg of BCG vaccine (semidry weight) did not interfere essentially with the animals' growth curves.

3. Each lot of vaccine possessed similar allergenic potency, as shown from measurements of the induration induced by a standard challenge dose of tuberculin.

4. Repeated reinoculations of cultures from caseous material taken from the abscess at the inoculum site failed to show any enhanced virulence.

5. A trend towards significant increments in the volume of the left deep inguinal and para-iliac lymph-nodes in guinea-pigs inoculated with 10 mg of BCG was observed in the weekly lots of vaccine; however, the cultures recovered from these nodes failed consistently to produce progressive tuberculosis upon reinoculation into normal guinea-pigs. An experimental comparison of current subcultures with dry glucose BCG vaccine, recultured after about four years, may show whether or not this trend towards lymphonodular hyperplasia is a transitory phenomenon.

6. The spleen, liver, lungs, and pooled lymph-nodes of BCG-inoculated guinea-pigs were weighed and the results converted into percentages of the animals' body-weight to show possible hyperplastic changes in the viscera. The variations from the mean percentage for these organs were considered tolerable.

Reports received from physicians who used the vaccine in more than 10,000 individuals supplied corroborative evidence regarding the activity of the various lots of vaccine in man.

Tuberculogenic and Allergenic Potency of BCG in Man

The tuberculogenic and allergenic potency of BCG in man was assessed on the basis of more than 11,000 official records, received by the Division of Tuberculosis Control, New York State Department of Health, giving

complete data on BCG vaccination, post-vaccination tuberculin control, and, in most instances, chest x-ray examinations. On the whole, the same remarkable regularity in local BCG-vaccination skin reactions occurred in man as was observed in the experimental animal. No valid clinical proof was received to support the contention that the vaccine is harmful to man.

STUDIES OF THE ANTIGENIC COMPOSITION OF INFLUENZA B VIRUSES

In an article in the *Bulletin of the World Health Organization*,[1] A. Bozzo, Visiting Fellow at the WHO World Influenza Centre, London, reports the results of investigations on the antigenic composition of influenza B strains isolated in different countries in different years and available at the Centre. Haemagglutination-inhibition tests revealed a rather homogeneous antigenic picture among 27 influenza B egg strains, all of which were antigenically distantly related to the mouse-adapted Lee strain. This discovery may well have a practical application, since it indicates the advisability of incorporating, in the prophylactic vaccine, one of the B strains other than the Lee. " Moreover, the lack of significant antigenic differences in a fairly large number of B strains isolated in the course of different years should lead, from a theoretical point of view, to the conclusion that measures of immunological prophylaxis should be more successful in preventing influenza B than influenza A epidemics." The author emphasizes, however, that the findings which he reports may be subject to some error since the haemagglutination-inhibition test shows wide fluctuations, depending on the use of different fowl cells and the presence of non-specific haemagglutination-inhibitor in the sera used in the test.

[1] *Bull. World Hlth Org.* 1952, 5, 149 (Article in English with summary in English and French)

DRIED SMALLPOX VACCINES

The preparation of dried smallpox vaccine at the Institut Pasteur, Bandoeng, Indonesia, is described by Dr. W. A. Collier, now Chief of the Government Bacteriological Laboratory, Paramaribo, Surinam, formerly Chief of the Smallpox Service at the Institut Pasteur, Bandoeng, in an article in the *Bulletin of the World Health Organization*.[1] The dried vaccine

[1] *Bull. World Hlth Org.* 1952, 5, 127 (Article in French with summary in English and French)

made by Otten's method at the Institute has been used in Indonesia since 1931. The number of doses of vaccine supplied rose from 147,000 in 1931 to 801,700 in 1941 and surpassed 26 million in 1949.

In the manufacture of dried smallpox vaccine at the Institute, the human variolo-vaccinal strain has been adapted to the ox and the buffalo. Before the second World War it was cultured by successive passages through the following animals : buffalo–rabbit–European heifer–buffalo. When economic circumstances eliminated the use of European heifers, the strain was maintained exclusively in the buffalo. Contrary to previous observations by other workers, it was found that culture in one species of animal led neither to decrease in the amount of vaccinal pulp produced nor to reduction in the virulence.

The process of preparing the vaccine consists of the following : the pulp collected from the buffalo is ground, dried in vacuo at laboratory temperature, pulverized in a mortar, and then put into ampoules, which are sealed after evacuation of air. About 20 g of dried powder are obtained from 100 g of crude pulp.

The vaccine is submitted to various tests. The absence of bacterial contaminant is checked by plate culture or by inoculation into guinea-pigs. Vaccinal qualities are evaluated according to virulence, as determined on the cornea of a guinea-pig, and according to antigenic potency, as expressed by the anti-haemagglutination titre of the serum from immunized guinea-pigs.

The production of Otten's dried vaccine is not more expensive than that of glycerinated vaccine; the advantages of the vaccine are that it can be prepared on a large scale, kept, and transported to all parts of the world without losing its potency. Experiments have shown that this vaccine still gives an appreciable percentage of positive results after 18 years' storage.

Notes and News

Venereal-Disease-Control Projects for Pakistan

WHO aid is to be given to Pakistan in the establishment of two venereal-disease-control centres, one at Karachi, the other at Chittagong. The Karachi centre, which is expected to be opened about August 1952, will train Pakistani doctors in modern methods of venereal-disease control. The Government of Pakistan has provided clinic and laboratory facilities. WHO, under the Technical Assistance Programme, will supply the necessary equipment and a team of international personnel, including a physician, a serologist, a public-health nurse, and a health educator. Matching Pakistani personnel will work with the international staff and will continue the activities after the WHO team moves on to Chittagong. The centre in Chittagong, which is to begin operations in 1953, will be devoted largely to the control of venereal diseases among seafarers.

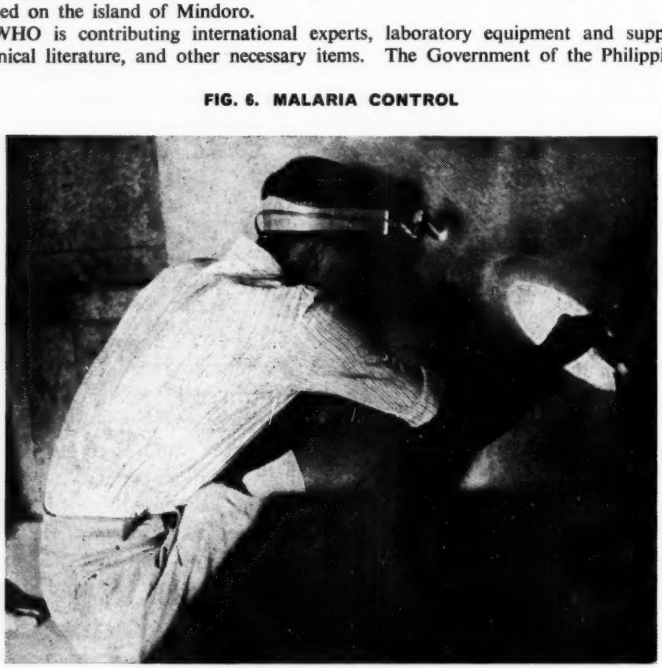
Malaria

Malaria-control demonstration in the Philippines

A pilot project has been inaugurated in the Philippines, with WHO technical assistance. It is hoped to protect more than 50,000 people against malaria, by means of spraying with residual-action insecticides, within a period of 18 months. Operations have already started on the island of Mindoro.

WHO is contributing international experts, laboratory equipment and supplies, technical literature, and other necessary items. The Government of the Philippines,

FIG. 6. MALARIA CONTROL



Entomological studies are an essential part of WHO malaria-control operations. Here a worker with the Ernad team is shown searching for mosquitos.

with the assistance of the Economic Co-operation Administration (ECA), is providing sprayers, insecticides, and transport.

The members of the international team are Dr. G. Sambasivan, malariologist, and Dr. M. Bhatia, entomologist, who have recently completed a successful WHO malaria-control demonstration in Thailand. It is planned that, at the end of the project, government teams will take over and extend the control measures.

Demonstration team completes assignment in India

Operations of the WHO malaria-control team which had been in Ernad, Malabar, Madras, India, were concluded in December 1951. The work is being continued, however, by a national team. Dr. L. Mara, senior adviser for the WHO project, presented a plan of operations for future activities in the area to the authorities concerned and turned over equipment, supplies, etc. to the leader of the national team before the international personnel withdrew.

The final malariometric survey of the project showed a reduction of 57% in the spleen-rate and of 78% in the parasite-rate in the demonstration area, although many parts of this area had been covered by the campaign only in 1951. In the check area, on the other hand, the spleen-rate increased by about 20%, although the parasite-rate decreased from 10% to 5%.

The density of *Anopheles fluviatilis* nine months after spraying in the demonstration area was found to be 0.1 per man-hour in the routine catching stations as compared with 6.2 in the check area.

The cost of the campaign amounted to about Rs 0.12 (approximately $0.16 [1]) per capita per year in 1951, exclusive of the expenses related to epidemiological investigations which need not be repeated in the routine maintenance of malaria control.

Technical Assistance for Finland

The Government of Finland and WHO have signed an agreement covering ten health programmes which are to be undertaken in Finland in 1952 and 1953 within the framework of the United Nations Technical Assistance Programme. WHO is to assist Finland in projects relative to the control of tuberculosis, venereal diseases, and other communicable diseases; public-health administration, including vital and health statistics; and health education. Fourteen WHO advisers will participate in these activities, which will comprise improvements in sanitation, nursing care, social and occupational health, child health, including nutrition, and mental health. In addition, 52 fellowships will be granted to health personnel from Finland.

Emergency Aid in Control of Cerebrospinal Meningitis

WHO is assisting the Ministry of Public Health of the Anglo-Egyptian Sudan in controlling an outbreak of cerebrospinal meningitis. Dr. A. Macchiavello and Dr. Wasfy Omar, Director of Health Services and Epidemiologist, respectively, of the WHO Regional Office for the Eastern Mediterranean, have gone to Khartoum to investigate the spread of this disease in the Sudan and to plan control measures. They have taken with them medical supplies and drugs to meet urgent needs. WHO has allocated $15,000 for this emergency aid to the Anglo-Egyptian Sudan.

In the request for assistance, the services of Arabic-speaking doctors were also sought. The Egyptian Government has agreed to help meet this request by sending six Egyptian doctors to aid in the control measures.

Seminar on Health and Human Relations

A seminar on health and human relations, sponsored by a joint committee of community agencies, in co-operation with WHO and UNESCO, was held at Dar El Hekma, Cairo, from 9 to 14 March 1952. The chief aim of this seminar was to strengthen the relationships among the already established community agencies in order to set up an organization to co-ordinate activities in health and social hygiene. Lectures, group meetings, and panel discussions on relevant subjects were attended by government officials, teachers, social workers, and students. His Excellency Radi Abu Seif Radi Bey, Minister of Social Affairs and Public Health of Egypt, acted as Chairman.

[1] 4.762 Rs = $1.00

Associate Membership of WHO Requested for Tunisia

The French Government has made an application on behalf of Tunisia for admission to the World Health Organization as an Associate Member. This application will be considered at the Fifth World Health Assembly, which opens in Geneva on 5 May. Associate membership of WHO may be granted by the Assembly to territories which are not responsible for the conduct of their own international relations. Southern Rhodesia was admitted to the Organization as an Associate Member at the Third Health Assembly.

Views on WHO

Tribute to WHO

Under the above title, the *Medical Officer* (1951, **86**, 245) notes the statement of Sir Andrew Davidson, chief medical officer of the Department of Health for Scotland, on the occasion of the visit to his country by 16 senior public-health administrators, whose study-tour was sponsored by WHO :

". . . Sir Andrew Davidson . . . has paid tribute to the leadership of W.H.O. in promoting international co-operation in health matters.

" Forces demanding a world outlook on health are not far to seek. In the first place, the increased speed of transport means that epidemic diseases anywhere in the world are of universal and not merely local concern. Aeroplanes that can beat, or almost beat, the speed of sound can also beat the incubation period of most grave epidemic diseases. It is for this reason that the International Sanitary Regulations approved in May, 1951, are of such importance to all nations, not the least our own.

" The trend of world population is also a matter to be examined carefully. Since the beginning of this century the world population has increased by 825 million persons (i.e. by 53 per cent.); it is now about 2,377 millions compared with 1,551 millions in 1900 ! India and Pakistan have the largest increase from 282 millions to 420 millions, taking them together. Even in Britain the increase is nearly 13 millions in the first half of this century. Increases in population of these dimensions bring problems of proportional magnitude and complexity—housing, food and nutrition, infectious diseases, maternity and infant health, industrial health, education of medical and other health workers, and so on. Again, as Sir Andrew pointed out, the health organisations of the world's nations vary widely in adequacy and efficiency. Standards as well as problems differ. In most countries, but mainly the poorer ones, there is a severe shortage of trained workers. As disease knows no frontiers we in this country, although our health services are in a state of relatively advanced development, must take note of what is happening elsewhere.

" Fortunately, there is nowadays a growing appreciation that by weakening resistance, poverty, malnutrition and bad social environment facilitate the spread of disease. All these four trends, apart from others of a political nature, help us to realise that our interest in world health is as much concerned with self-protection as with altruism.

" As Sir Andrew says, W.H.O. has played a valuable part in these developments; by demonstration teams, by travelling fellowships and by providing specialist advice on strengthening health services in backward countries, their state of

knowledge and achievement have been immensely improved. A dramatic example of successful international effort occurred in the days of the Interim Commission, immediately before the formal establishment of the organisation. In 1947 there was a serious outbreak of cholera in Egypt. If this had gone according to form, mortality and morbidity would have been of mediaeval proportions. Emergency action was taken, however, by the Commission : supplies and workers were freely offered from other countries. International co-operation came to the aid of Egypt's health administration. Within six weeks the epidemic was under control and no new cases of cholera occurred. W.H.O. is also helping in the control of malaria in many parts of the world; and, combined with U.N.I.C.E.F. and the Scandinavian Red Cross Societies, it is supporting extended campaigns against tuberculosis and venereal diseases. Above all, the world-wide network of its information services is available for health departments in all those countries which permit free interchange of medical thought and practice across their frontiers."

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